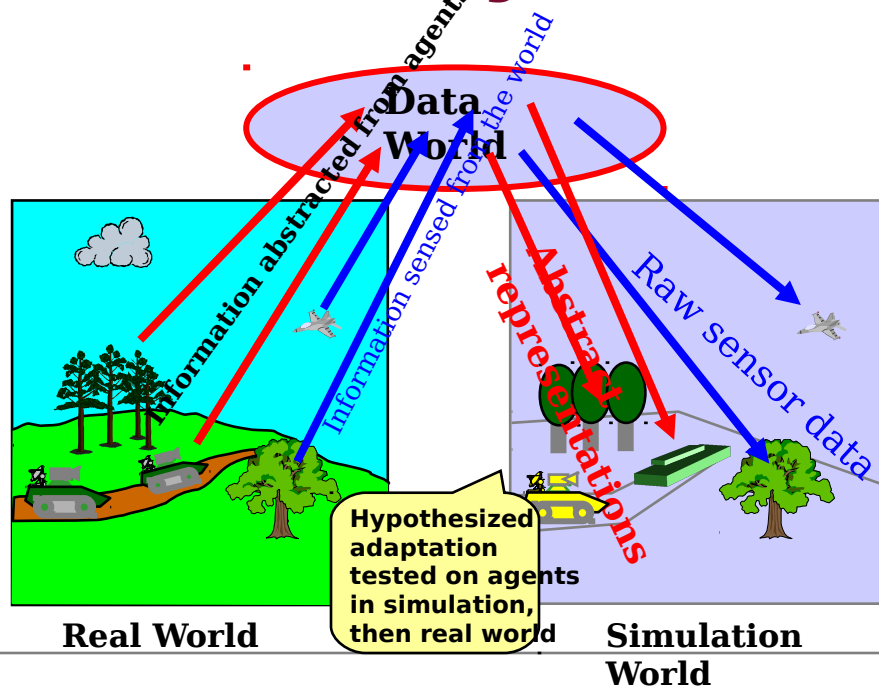


Port-based Agent Architecture for Self Adaptive Software



New Ideas:

- **Port-based Agents (PBAs)**
Architecture that supports composable and mobile real-time code for adaptation
- **Using Runtime Simulations for Adapting and Reconfiguring Port-based Agents**
- **Acquiring a Port-based Agent's Skill from Observation**
- **Interactive Software Components that connect design Port-based agents with their runtime counterparts.**

Impact

- **Port-based Agents will result in the development of new real-time control software adaptation methods based on "real-time agents"**
 - Will allow real-time software to be configured in real-time
 - Will result in new control schemes that cannot be created using conventional methods
 - Will result in rapid evaluation and integration of adaptation algorithms based on run-time execution

Schedule (starting September 1, 1998)

- Year 1:** - Develop Port-based agent (PBA) architecture for composition, reconfiguration, and real-time mobile code for adaptation
 - Demonstrate a Graphical User Interface and Design Agents to configure Applications both on-line and off-line
- Year 2:** - Design and Demonstrate "Design Agents" and 'Expertise Agents'
 - Develop Algorithms for Primordial Learning and Skill Acquisition